Crop Production

Approved Materials and Practices.

The following lists of materials are approved for use in organic crop production. Some materials have certain restrictions regarding their use. These restrictions are noted in the list. ALWAYS CAREFULLY READ THE LABEL AND ANY OTHER DOCUMENTATION. All materials must be applied in compliance with all state and federal laws.

General requirements

Pesticides that contain inert ingredients must not contain inert ingredients on EPA's List 1, 2 or 3 of Inerts of Toxicological Concern.

- (1) Acetic acid. Used as a drip irrigation cleaner and as an adjuvant to adjust pH of solutions.
- (2) Airborne projectiles for rodent control.
- (3) Alcohol. Allowed as an algicide, disinfectant, sanitizer, and cleanser of irrigation systems.
- (4) Alfalfa meal.
- (5) Algae.
- (6) Amino acids from naturally occurring organisms are allowed. Amino acids produced from genetically engineered organisms are prohibited.
- (7) Ammonium soaps. As large animal repellant. No contact with soil or edible crop.
- (8) Animal byproducts including bone meal, blood meal, feather meal, hoof meal, horn meal, shrimp meal, crab meal and crab meat. Leather by-products are prohibited.
- (9) Antibiotics. Streptomycin and tetracycline are permitted for fire blight control.
- (10) Ascorbic acid. Used as a drip irrigation cleaner and as an adjuvant to adjust pH of solutions.
- (11) Azadrichtin (neem).
- (12) Biodynamic preparations.
- (13) Blood meal.
- (14) Bone meal.
- (15) Boron products. Mined sources are allowed including sodium tetraborate, sodium octaborate.
- (16) Bacillus thuringiensis. Must not be a product of genetically engineered organisms.
- (17) Beneficial insects.
- (18) Biological control organisms.

- (19) Bordeaux mixes. Use with caution.

 Excessive may cause buildup of copper in the soil.
- (20) Boric acid. Cannot be used in direct contact with organic food or crops.
- (21) Biological control organisms.
- (22) Calcium chloride.
- (23) Calcium hydroxide (hydrated lime). Foliar application only. Must not be used as a liming material.
- (24) Carbonates of zinc, iron, copper, manganese, molybdenum, selenium, and cobalt. May be used only to correct for deficiencies determined by soil or plant tissue testing.
- (25) Cardboard. Unwaxed cardboard may be used as mulch or as a compost feedstock. Waxed cardboard must not exceed 0.75% by weight of the mulch or compost feedstock.
- (26) Chelates. Chelated micronutrient sprays may be used in conjunction with soil and/or plant tissue tests. Amino acid, lignin-sulfonate, citric acid, malic acid, tartaric acid and other di- and tri-acid chelates are acceptable. Synthetic chelating agents such as EDTA and HEDTA are prohibited.
- (27) Citric acid. Used as a drip irrigation cleaner and as an adjuvant to adjust pH of solutions.
- (28) Cocoa bean hulls. Must be composted or tested for pesticide residues of organochlorines and organophosphates. Testing of product must indicate that organochlorines and organophosphates residues are below 10 parts per billion.
- (29)Compost tea. The materials (feedstocks) used to produce compost tea must consist of approved materials. Acceptable feedstocks include uncontaminated nonsynthetic materials except for those nonsynthetic substances prohibited under the National Organic Program section 205.602 and 205.604. Prohibited feedstocks include nonsynthetic substances contaminated with clopyralid, picloram or other persistent pesticides, mixed municipal solid waste, sewage sludge, biosolids, glossy paper, recycled gypsum, dangerous waste, special waste, waste or by-product from processes that create organochlorines, cement kilns, secondary steel mills, waste categorically excluded from the dangerous waste

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- regulations and other materials prohibited under the National Organic Program.
- (30) Compost. The materials (feedstocks) used to produce compost must consist of approved materials. Acceptable feedstocks include uncontaminated nonsynthetic materials except for those nonsynthetic substances prohibited under the National Organic Program section 205.602 and 205.604. Prohibited feedstocks include nonsynthetic substances contaminated with clopyralid, picloram or other persistent pesticides, mixed municipal solid waste, sewage sludge, biosolids, glossy paper, recycled gypsum, dangerous waste, special waste, waste or by-product from processes that create organochlorines, cement kilns, secondary steel mills, waste categorically excluded from the dangerous waste regulations and other materials prohibited under the National Organic Program.
- (31) Copper hydroxide.
- (32) Copper sulfate. Use with caution. Excessive use may cause buildup of copper in the soil.
- (33) Corn calcium.
- (34) Corn gluten.
- (35) Cottonseed meal. Must be composted or tested for pesticide residues of organochlorines and organophosphates. Testing of product must indicate that organochlorines and organophosphates residues are below 10 parts per billion.
- (36) Cyanobacteria or blue-green algae.
- (37) Deer and rabbit repellents. Acceptable if derived from a natural source.
- (38) Diatomaceous earth.
- (39) Dolomite lime. (Magnesium carbonate and calcium carbonate.) May cause buildup of magnesium. Must be from a natural mined source.
- (40) Dormant oils. Must have an average fifty percent boiling point at 10mm mercury pressure between 415-470 degrees Fahrenheit. Use only on woody plants as a dormant spray.
- (41) Enzymes. Acceptable if derived microbiologically from natural materials and not fortified with synthetic plant nutrients. Enzymes produced from genetically engineered organisms are prohibited.
- (42) Epsom salts or magnesium sulphate.
- (43) Feather meal.

- (44) Fish emulsions. Forms which are "fortified" with urea or other synthetic plant nutrients are prohibited. Sulfuric, citric and/or phosphoric acid may be used to lower the pH to 3.5.
- (45) Fish meal.
- (46) Flame and steam weeding.
- (47) Food processing waste. Must be from a certified organic source, composted, or tested for pesticide residues of organochlorines and organophosphates. Testing of product must indicate that organochlorines and organophosphates residues are below 10 parts per billion. The department may require additional testing to ensure pesticide residues will not affect the integrity of the organic crops.
- (48) Fungal organisms.
- (49) Garlic.
- (50) Gibberellic acid. Acceptable if made from a fermentation process.
- (51) Grape, apple and other pomaces. Must be from certified organic source, composted or tested for pesticide residues of organochlorines and organophosphates. Testing of product must indicate that organochlorines and organophosphates residues are below 10 parts per billion.
- (52) Grazing.
- (53) Greensand or glauconite.
- (54) Guano, bat or bird.
- (55) Gypsum (calcium sulfate). Must be from a naturally mined source. Gypsum by-product from drywall or other sources is prohibited.
- (56) Herbal preparations. May not be extracted with synthetic solvents.
- (57) Hoof and horn meal.
- (58) Humates. Acceptable if derived from leonardite, lignite or coal.
- (59) Humic acid derivatives. Extracts from natural humates by hydrolysis or potassium hydroxide extraction are allowed. These are only acceptable if derived from a natural source and not fortified.
- (60) Hydrated lime. Foliar application as a fungicide only. Shall not be used as a liming material.
- (61) Hydrogen peroxide.
- (62) Insect extracts.
- (63) Insect traps and monitoring devices.
- (64) Kelp meal and extracts.

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- (65) Ligno sulfonates. Includes calcium lignosulfate, lignosulfonic acid and sodium lignosulfate. Allowed as a chelating agent, inert ingredient and dust suppressant.
- (66) Lime sulfur.
- (67) Lime and limestone. Naturally mined lime including dolomite lime (magnesium carbonate) and agricultural lime (calcium carbonate) are approved for use. Synthetic sources (hydrated lime) and industrial sources (cement kiln lime, spent controlled atmosphere lime) are prohibited.
- (68) Neem (azadrichtin).
- (69) Nematodes.
- (70) Manure. Uncomposted manure must not be applied within 120 days of the harvest of crops that have contact with the soil and within 90 days of the harvest of crops that do not contact the soil.
- (71) Meat meal.
- (72) Mechanical and cultural controls.
- (73) Microbial products. Microbial products cannot contain any synthetic ingredients. Genetically engineered organisms and their products are prohibited.
- (74) Mined materials. Approved mined materials include boron products, calcium chloride, kieserite, langbenite, leonardite, rock phosphate, gypsum, and greensand. Prohibited mined materials include potassium nitrate.
- (75) Mulches. The materials used to produce mulch must consist of approved materials. Approved materials include uncontaminated natural vegetation, newspaper and nonglossy paper. Prohibited materials include substances contaminated with clopyralid, picloram or other persistent pesticides, colored ink, glossy paper and waxed cardboard. Plastic mulches may be used and must not be incorporated into soil. Biodegradable paper mulch that contain fungicides or other prohibited materials are prohibited.
- (76) Mushroom compost. Must be certified organic, composted or tested for pesticide residues of organochlorines and organophosphates. Testing of product must indicate that organochlorines and organophosphates residues are below 10 parts per billion.
- (77) Peat moss. Unfortified forms only.

- (78) Perlite.
- (79) Pheromones.
- (80) Plant and fungal extracts.
- (81) Plastics for mulch, row covers, and solarization must not be incorporated into soil.
- (82) Potassium bicarbonate.
- (83) Potting soil. Must consist of approved materials. Potting soil that contains synthetic fertilizer, prohibited wetting agents or other prohibited materials is prohibited.
- (84) Predators. Cats, hawks, and coyotes.
- (85) Pumice.
- (86) Pyrethrums. Naturally occurring forms are allowed. The pyrethrums are highly unstable in the presence of air, light, and moisture. They have low mammalian toxicity and can cause dermatitis in humans. Use with caution.
- (87) Rock phosphate.
- (88) Rodent traps.
- (89) Rotenone. Use with caution. Rotenone is highly toxic to fish. Its persistence in the soil is unknown, though it loses its effectiveness within one week. Should not be used on crops nearing harvest time. Commercial rotenone comes from tropical leguminous shrubs in the genera *Lonchocarpus* and *Derris*. The active compounds, rotenoids, are present in a variety of legumes including soybeans.
- (90) Row covers. Must not be incorporated into soil
- (91) Ryania. Use with caution. The toxicological properties of ryania are largely unknown.
- (92) Sabadilla. Use with caution.
- (93) Shells from oysters, crabs, clams and other shellfish.
- (94) Soaps. Sodium and potassium salts of fatty acids are approved. Synthetic detergents are prohibited.
- (95) Sodium nitrate. Discouraged because of high sodium content. Cannot be used as the primary source of nitrogen. Sodium nitrate can be used for up to twenty percent of total nitrogen inputs. Total nitrogen is defined as pounds of nitrogen from all sources including, in part, manure, blood meal, compost, green manures, cover crops and fishmeal.
- (96) Soil pasteurization.
- (97) Sticky traps and barriers.

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- (98) Sugar beet lime. Must be composted or tested for pesticide residues of organochlorines and organophosphates. Testing of product must indicate that organochlorines and organophosphates residues are below 10 parts per billion.
- (99) Sulfur burners. Alkaline well water may be sweetened with sulfur burners.
- (100) Sulfur, elemental.
- (101) Sulfates of zinc or iron. May be used only to correct for deficiencies determined by soil or plant tissue testing.
- (102) Sul po mag.
- (103) Summer oils. May be used on woody plants only, carrot and/or weed oils are prohibited. Must have an average fifty percent boiling point at 10mm mercury pressure between 415-470 degrees Fahrenheit.
- (104) Synthetic vitamin baits.
- (105) Trapping substances as long as they do not contain prohibited materials.
- (106) Tree seals. May be petroleum based but may not contain synthetic chemicals or fungicides.
- (107) Vegetable oils.
- (108) Vermiculite.
- (109) Vinegar.
- (110) Viruses.
- (111) Vitamin B-1.
- (112) Waxes for grafting or sealing tree wounds.
- (113) Weeder geese.
- (114) Wetting agents. Natural wetting agents including soaps, saponins and microbial wetting agents are allowed. Synthetic wetting agents are prohibited.
- (115) Wood ashes, from nonindustrial sources only.
- (116) Worm castings.
- (117) Yard waste. Yard waste from certified organic sources is approved. Yard waste from conventional sources must tested for pesticide residues of clopyralid and picloram and other persistent pesticides as appropriate. Testing of yard waste must indicate that clopyralid and picloram residues are below 1 parts per billion.

Prohibited Materials and Practices

The following materials are prohibited from use in organic crop production. In addition, all materials that are prohibited under the National Organic Program, section 205.105 are also prohibited.

- (1) Abamectin or avermectin.
- (2) Aluminum phosphide.
- (3) Alpha-Naphthylthiourea.
- (4) Ammonia products.
- (5) Anticoagulant rodent baits.
- (6) Avermectin.
- (7) Biosolids.
- (8) Broadcast burning.
- (9) Calcium cyanide.
- (10) Calcium nitrate.
- (11) Calcium oxide or quicklime.
- (12) Carbamates.
- (13) Carrot oil.
- (14) Chlorinated hydrocarbons.
- (15) Coumarins.
- (16) Cryolite or sodium fluoaluminate.
- (17) Detergents.
- (18) Dimethyl sulfoxide.
- (19) Enzymes produced from genetically engineered organisms.
- (20) Field burning.
- (21) Fortified humic acid derivatives.
- (22) Gypsum by-product from drywall and other sources.
- (23) Herbicidal soaps.
- (24) Indandiones.
- (25) Leather meal and leather by-products.
- (26) Magnesium nitrate.
- (27) Methyl bromide.
- (28) Methyl sulfoxide.
- (29) Mono-ammonium phosphate.
- (30) Moth balls/crystals.
- (31) Nicotine.
- (32) Organochlorines.
- (33) Organophosphates.
- (34) Plant protectants, synthetic.
- (35) Pyrethroids, synthetic.
- (36) Phosphoric acid.
- (37) Phosphorus.
- (38) Piperonyl butoxide.
- (39) Plant regulators, synthetic.
- (40) Potassium nitrate.
- (41) Pyriminilureas.

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- (42) Sewage sludge.
- (43) Sodium fluoroacetate.
- (44) Soil fumigants.
- (45) Super phosphate.
- (46) Strychnine.
- (47) Synthetic chelating agents such as EDTA and HEDTA.
- (48) Synthetic fertilizers.
- (49) Synthetic fungicides, fumigants, sterilizants, and bactericides.
- (50) Synthetic growth regulators.
- (51) Synthetic herbicides.
- (52) Synthetic wetting agents.
- (53) Thallium sulfate.
- (54) Zinc phosphide.
- (55) Triple phosphate.
- (56) Urea.
- (57) Weed oils.

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